

REMARKS

Claim 2 is amended to incorporate the subject matter of claim 4 (now cancelled), and to further specify that “tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”. These amendments are supported by previous claim 4 and by the original description text, for instance at original description page 5, line 22 (i.e. “tube paths formed to meet”), at original description page 5, lines 26-27 (i.e. “tube paths are formed to meet”) and at original description page 7, line 30 (i.e. “intermediate the front speakers”). Claims 10, 11, and 18 are amended to adjust the claim dependencies and correct certain antecedent and typographical deficiencies noted by the Examiner. Claim 22 is cancelled. No new subject matter has been introduced in making any of these amendments.

Claim Objections

The Examiner has objected to claim 18, drawing attention to a typographical error in the expression “forth speaker”. Applicant has rectified this error by replacing “forth” with “fourth”. Reconsideration is requested.

Claim Rejections – 35 U.S.C. § 112

The Examiner has rejected claims 10 to 11 under 35 U.S.C. § 112 as lacking sufficient antecedent basis for “the sound absorbing material”. Applicant accordingly has amended claims 10 and 11 so that they are dependent on claim 9, which provides an antecedent basis for “sound absorbing material”.

In addition, the Examiner has rejected claim 18 as lacking sufficient antecedent basis for “the third speaker and fourth speaker”. Applicant accordingly has amended claim 18 to establish antecedent basis for “third speaker” and “fourth speaker”. Applicant also takes this opportunity to amend claim 18 to establish an antecedent basis for “second end” of the fourth tube.

Applicant submits that amended claims 10, 11 and 18 comply with 35 U.S.C. § 112 and respectfully requests reconsideration.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejects claims 1-6, 8-11, 14-18 and 21 under 35 U.S.C. § 102(b) alleging that these claims are anticipated by Meucci Jr. (U.S. 6,038,330). Applicant disagrees and traverses the rejection in view of the amended claims submitted herewith.

Claim 2 has been amended to include the subject matter of previous claim 4, and to further specify that “tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”.

It is respectfully submitted that Fig. 4 of Meucci Jr. does not anticipate previous claim 4 as the Examiner suggests. Fig. 4 of Meucci illustrates a cross-sectional view of casing 30 of the disclosed headset, including the interior chamber 34 thereof in which the inner tubes 56 of each sound focusing assembly 32 terminate. Nowhere in Fig. 4 of Meucci Jr., or throughout the disclosure of Meucci Jr. is there disclosed “the at least one first tube is continuous with the at least one second tube at respective first ends thereof” (*emphasis added*) as is claimed in previous claim 4. Applicant draws the Examiner’s attention to the fact that the speakers defined in claim 2 are connected adjacent the first ends of the respective tubes. Joining the first and second tubes at this position allows, for example, one to physically separate right and left speakers along a sound path such that the sound from each speaker can be heard in both ears with separate timing, thus

contributing to the desired 3D effect. Placing sound absorbing material within this sound path and between the speakers, as specified in claims 9-11, alters the sound intensity from one side to the other and further contributes to the 3D sound effect.

This subject matter is neither taught nor suggested by Meucci Jr.. Comparing the tubes of Meucci Jr. with the tubes defined in Applicant's claims, the "first ends" of the Meucci Jr. tubes terminate at the transducer 40. The "second ends" of the Meucci Jr. tubes terminate at the interior chamber 34 of the casing 30. Each of the 'first ends' of the Meucci Jr. tubes are separate from each other and are not connected or continuous, and thus do not enable the timing and phase effects produced by Applicant's headset apparatus. The Meucci Jr. tubes therefore do not anticipate the subject matter of previous claim 4 as the Examiner suggests.

In order to clarify the distinguishing features of previous claim 4, Applicant has further defined in amended claim 2 that "tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers". This amendment clarifies that the tubes are joined between the speakers, and not at the outlet ends.

In view of the above, Applicant submits that amended claim 2 is not anticipated by Meucci Jr.. Further, since claims 3, 5, 6, 8-11, 14-18 and 21 depend on claim 2, Applicant submits that the subject matter of said claims is neither taught nor suggested by Meucci Jr.. Removal of the rejection is requested.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejects claim 7 under 35 U.S.C. § 103(a) alleging that this claim is unpatentable over Meucci Jr. in view of Lin (U.S. 6,084,976). Applicant disagrees and traverses the rejection in view of the amended claims submitted herewith.

Claim 2 has been amended to include the subject matter of previous claim 4, and to further specify that “tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”. This subject matter enables, at least in part, the timing and phase effects produced by Applicant’s headset apparatus.

Meucci Jr. does not disclose a headset apparatus of amended claim 2 as discussed above. Lin has been combined with Meucci Jr. by the Examiner to further establish a headphone apparatus wherein the chamber is a vented or ported chamber. However, Lin does not describe a 3D headphone apparatus wherein “the at least one first tube is continuous with the at least one second tube at respective first ends thereof such that tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”. Lin adds nothing to Meucci Jr. that would enable the timing and phase effects produced by Applicant’s headset apparatus. Accordingly, the combined teachings of Lin and Meucci Jr. do not render currently amended claim 2 obvious, nor claim 7 which is dependent on claim 2. Removal of the rejection is requested.

The Examiner rejects claims 12-13 and 21 under 35 U.S.C. § 103(a) alleging that these claims are unpatentable over Meucci Jr. in view of Yamagishi (U.S. 5,459,290). Applicant disagrees and traverses the rejection in view of the amended claims submitted herewith.

Claim 2 has been amended to include the subject matter of previous claim 4, and to further specify that “tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”. This subject matter enables, at least in part, the timing and phase effects produced by Applicant’s headset apparatus.

Meucci Jr. does not disclose a headset apparatus of amended claim 2 as discussed above. Yamagishi has been combined with Meucci Jr. by the Examiner to further establish a headphone

apparatus having a bass speaker positioned adjacent the user's ear as defined in claim 12, and more specifically within an ear engaging member as defined in claim 13. Yamagishi is also used with Meucci Jr. to further establish a headphone apparatus having a slider joint between the ear engaging members for adjustment of connection length between ear engaging members, as defined in claim 21. However, Yamagishi does not describe a 3D headphone apparatus wherein "the at least one first tube is continuous with the at least one second tube at respective first ends thereof such that tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers". Yamagishi adds nothing to Meucci Jr. that would enable the timing and phase effects produced by Applicant's headset apparatus. Accordingly, the combined teachings of Yamagishi and Meucci Jr. do not render currently amended claim 2 obvious, nor claims 12, 13 and 21 which are dependent on claim 2. Removal of the rejection is requested.

The Examiner rejects claims 19-20 and 22 under 35 U.S.C. § 103(a) alleging that these claims are unpatentable over Meucci Jr.. Applicant disagrees and traverses the rejection based on the amended claims submitted herewith.

Claim 2 has been amended to include the subject matter of previous claim 4, and to further specify that "tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers". This subject matter enables, at least in part, the timing and phase effects produced by Applicant's headset apparatus.

The Examiner asserts that it would have been obvious for one of ordinary skill in the art to have modified Meucci Jr. to include an electronic controller to control emissions of speakers for enabling the user to manually adjust the speaker output as defined in claim 20. The Examiner further contends that it would have been obvious for one of ordinary skill in the art to have


modified Meucci Jr. to make the first and second speakers front-left and front-right speakers, and to include third and fourth speakers as rear-left and rear-right speakers connected via third and fourth tubes as defined in claim 19. However, as discussed in greater detail above, Meucci Jr. does not describe a 3D headphone apparatus wherein “the at least one first tube is continuous with the at least one second tube at respective first ends thereof such that tube paths of the at least one first tube and the at least one second tube are formed to meet intermediate the first and second speakers”. Meucci Jr. provides no suggestion or motivation whatsoever towards designing a headset apparatus that enables the timing and phase effects produced by the 3D headset apparatus of the invention. Accordingly, Applicant submits that one skilled in the art would not be able to modify Meucci Jr. without inventive merit to arrive at currently amended claim 2, nor claims 19 and 20 which are dependent on claim 2. Removal of the rejection is requested.

With respect to the Examiners rejection of claim 22, Applicant respectfully disagrees. However, to advance the prosecution of this application yet without acquiescing to the Examiner’s position, claim 22 has been cancelled. Applicant reserves the right to pursue the subject matter of claim 22 in a separate continuation application. The Examiner’s rejection of claim 22 is therefore moot. Removal of the rejection is requested.

In view of the foregoing, it is respectfully urged that the present claims are in condition for allowance and reconsideration is requested. An early notice to this effect is earnestly solicited. Should there be any questions regarding this application, the Examiner is invited to contact the undersigned at the number shown below. In the event that the Office determines that

fees are due, the Office is authorized to charge any underpayment or credit any overpayment to
Deposit Account No. 18-1215.

Respectfully submitted,

A handwritten signature in cursive script that reads "Susan S. Jackson". The signature is written in dark ink and is positioned above the printed name.

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